

HIRUNDO RUSTICA MOULTING REMIGES WHILE REARING
NESTLINGS IN IRAQ

P. V. GEORGE KAINADY

Natural History Museum, University of Basrah, Basrah, Iraq

The adult female (wing 123 mm) of a pair of Common Swallows *Hirundo rustica** Linnaeus rearing a brood, collected on 9 June 1974 was moulting the first innermost primary on both wings. This pin feather on the right side measured 4.5 mm, and that of the left 4.0 mm. No tail or body feathers were in moult except the down feathers of the anterior half of the incubation patch (breast), which were all pin feathers, while the posterior half (belly) was naked (see Fig. 1). Tarsal scutelle were moulting on both legs. General condition of the plumage was rather good but for the slightly worn tips of two outermost primaries.

The male (wing 124 mm) of this pair collected on the next day had no wing or tail moult. Among the body feathers only the down feathers of the anterior breast were in moult; pin feathers were present interspersed among the old down feathers (see Fig. 1). The scales of tarsus were in moult on both legs.

The moult of body feathers seems to start with the down feathers of the anterior part of breast, and this happened in both sexes of this pair more or less at the same time. Renewal of the tarsal scales also occurred simultaneously ? at the start of general moult.

* The nominate subspecies breed in Iraq.

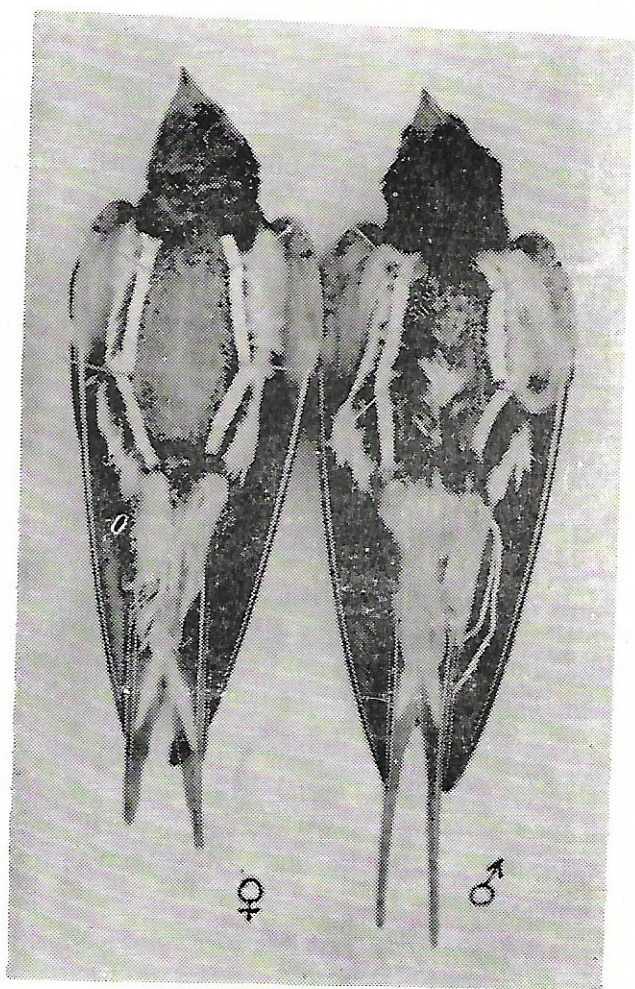


Fig. 1. A pair of **Hirundo rustica** rearing a brood of three nestlings about sixteen days old, collected on 9 & 10 June 1974, Basrah, Iraq. Pieces of plaster have been placed on contour feathers brushed to either sides to show the refeathering of the anterior part of the incubation patch in female and moult of the same area in male. (George Kainady)

The pair at the time of collection was rearing a brood of three nestlings about sixteen days old (wing 75, 74, & 63 mm). The daytime brooding by the female lasts for six to nine days (Purchon 1948). although one of the parents sleeps on nest for a fortnight (Brown 1924). Refeathering of the incubation patch in female appears to have begun around the termination of daytime brooding.

The nest was located near the ceiling in a first floor room, kept unused for a couple of years, in the busy market of Ashar, Basrah, southern Iraq. Close to this nest one and half metre away there was another empty nest. On the floor below both nests excreta were present, more so under the active nest. This showed that both nests were in use this year and the nestlings could have been of the second rearing. Another pair visited the room occasionally while the nests were under observation (8-10 June). However, at no time the active nest was found attended by this pair. Soon after the collection of the parent male on 10 June, this pair came in, and the male was collected, the female escaped through a gap in the window. This male had no moult. The testes measurements in mm were L 3×2 & R 2.5×2 and L 7×4 & R 6×4.5 for the parent male and the other male respectively.

Since no Swallows taken in Europe examined by Witherby (1940) had any moult of remiges and rectrices, he held the view that the moult of these feathers of *H. rustica* takes place in its winter quarters in Africa. This was disproved when Richards and Goodwin (1950) recorded the innermost primary about threeparts grown in an adult Swallow collected on 19 September in southern England. As this was the only Swallow found in an after-dark search in the vicinity, they judged it to be the parent of three nestlings about twelve days old in a nest located about 90 m away. Excepting this, no *H. rustica* is so far recorded as moulting remiges while breeding.

Pimm (1970) has given further evidence of *rustica* moulting in southern Europe; out of 147 adult netted for ringing at Huelva, southern Spain in autumn (27 July to 13 Aug. 1967) 28 were in active primary moult (1 to 4 primaries), and most of the adults in heavy body moult, and also a similar situation noted next year.

In most populations of *H. rustica* the moult begins in September or October, after reaching the winter grounds. E. and V. Stresemann (1968) have shown that the subspecies breeding at the southernmost

borders of the Palearctic region, namely **savignii** of Egypt, **transitiva** of Lebanon and Palestine, and **rustica** of the southern Himalayas and southern Afganistan (which are either residents, or do not migrate farther than some hundred miles) start moulting their remiges "immediately after (or before ?) the last breeding cycle (at the end of June or in July)". They suppose that this might be the case with the southernmost populations of the East Asiatic subspecies **gutturalis**.

Additional proof for the moult of the Himalayan populations of **rustica** is supplied by Pimm (1972) ; primaries 1-6 were in growth or completing moult in 15 adults caught in September at Wular Lake, Kashmir, by an Oxford University expedition. Medway's (1973) report of remiges moulting (1 to 4 primaries) noted in seven **gutturalis** (5 adults and 2 juveniles) among the first arriving birds collected on 26 July in Bentong, central Malaya, may lend support to Stresemann's forecast on **gutturalis**.

H. rustica, a common summer breeding visitor, is virtually absent in Iraq in winter; there are only two winter records of solos, both from southern Iraq in January (Chapman & McGeoch 1956, personal observation 1969). Iraqi Swallows are unlikely to be short-distance migrants in view of the two recoveries of Kenyan ringed birds from central Iraq, covering about 4,000 km (George 1971, Niazi 1975).

The present finding of the Swallow moulting while rearing nestlings fills the gap in the Middle East and we can say that most of the southernmost Palearctic populations of **H. rustica** start moulting of remiges in the breeding ground in summer.

One young Swallow ringed on 19 April 1976 at Shafi (60 km N of Basrah), having a wing of 118 mm, was moulting down feathers on the breast and abdominal regions, most of which were in pin stage. One adult collected on 21 October 1974 from the same locality (wing 120 mm), although had no visible moult of any feathers, had the innermost primaries one and two new, judging from the fresh appearance and colour of the web and shaft compared to the adjacent feathers, as well of the same primaries of other specimens collected during the same period. As most of the local breeding population leave the area by August, this bird could be from a breeding population north of Iraq, which may indicate the interruption of moult during migration.

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الخلاصة

من المعروف سابقا عن طير سند وهند (*Hirundo rustica*) تنسل ريش الطيران (القوادم والخوافي) ويحدث بعد موسم التكاثر الا اننا في هذا البحث لاحظنا ان النسل يحدث خلال موسم التكاثر وهذه الملاحظة جديدة بالاهتمام لانها تسجل للمرة الاولى عن هذا الطير .